



AF/6P3141

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Masao Fukuda, et al.

Attorney Docket No.: ISHDP165

Application No.: 09/372,009

Examiner: C. Harmon

Filed: August 11, 1999

Group: 3721

Title: PACKAGING MACHINE

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APPEAL BRIEF TRANSMITTAL
(37 CFR 192)

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☐

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Respectfully submitted,
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PATENT

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Deborah Neill

APPELLANTS' BRIEF PURSUANT TO 37 CFR 1.192

Sir:

This brief, transmitted herewith in triplicate, is in furtherance of the Notice of Appeal mailed in the above-referenced application on August 4, 2003. The fees required under 37 C.F.R. 1.17(f) and any other fees required for filing are enclosed.

This brief contains pursuant to 37 C.F.R. 1.192(c) the items under the following headings and in the order set forth below:

- I Real Party in Interest
- II Related Appeals and Interferences
- III Status of Claims
- IV Status of Amendments
- V Summary of Invention
- VI Issues
- VII Grouping of Claims
- VIII Arguments
- IX Appendix of Claims Involved in the Appeal

I. Real Party in Interest

The real party in interest of this application and of this appeal is:

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ISHIDA CO., LTD., which is a Japanese corporation doing business at 44 Sanno-cho, Shogoin, Sakyo-ku, Kyoto, Japan and is the assignee in entire rights to this application.

II. Related Appeals and Interferences

Notice of Appeal was filed on August 4, 2003 in application Serial No. 09/996,624 which is a divisional of the instant application and Appeal Brief is being submitted simultaneously herewith. Some of the issues may be considered similar or related and have a bearing on the Board's decision in the pending appeal.

There are no other appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

This application was filed with seventeen (17) claims of which two (2) were independent claims (claims 1 and 6).

In response to Requirement for Restriction, Claims 1-5 were withdrawn as non-elected claims.

Claims 6-17 were rejected in an office action dated November 24, 1999. In applicant's response, claims 6 and 12-17 were amended.

Claims 6-17 were rejected in a final office action dated May 3, 2000. In a continued prosecution application filed in response, claims 18-23 were added.

Claims 6-23 were rejected in an office action dated October 18, 2000. In applicant's response, claims 6 and 18 were amended.

Claims 6-23 were rejected in another final office action dated May 31, 2001. In response, a Request for Continued Prosecution was filed with claims 6-23 cancelled and new claims 24-30 introduced, of which one (1) claim (claim 24) was independent.

Claims 24-30 were rejected in an office action dated February 26, 2002. In response, applicant submitted arguments without amending any of the claims.

Claims 24-30 were rejected in still another final office action dated July 18, 2002, and Notice of Appeal was mailed on October 14, 2002, followed by the mailing of Appeal Brief on November 22, 2002.

In response to Communication from the examiner mailed January 23, 2003, Revised Appeal Brief incorporating required changes was mailed on February 3, 2003.

Prosecution was reopened by the primary examiner and claims 24-30 were rejected in an office action dated April 3, 2003. Applicant response, in which no amendment was made to rejected claims 24-30, was mailed on June 24, 2003.

Claims 24-30 were rejected in another final office action dated July 15, 2003, and another Notice of Appeal was mailed on August 4, 2003.

The status of the claims as set in said still another final action was and is as follows:

allowed claims	--- none
claims objected to	--- none
cancelled claims	--- 1-23
claims rejected	--- 24-30

IV. Status of Amendments

Claims 24-30 have not been amended.

The claims as set out in the Appendix are the claims as currently pending.

V. Summary of Invention

This invention relates to a method of longitudinally sealing overlapping side edge portions of an elongated bag-making film material by means of a form-fill-seal type packaging machine 1, as shown in Figs. 1, 2 and 3 of the specification, having a cylindrical chute 4, a former 3 for bending the film material into a tubular form around this chute 4 such that its side edges will overlap, and a heater unit 50 for longitudinally sealing these overlapped side edges of the film. A heater driving means 70 causes the heater unit 50 to undergo a relatively larger-scaled motion from a retracted position away from the chute 4 to a sealing position at which the heater unit 50 contacts the film. This may be effected by supplying air at a relatively large pressure by an air cylinder 71. While the heater unit 50 remains at this sealing position, the compressive pressure applied by the heater unit 50 to the film around the chute 4 is controlled by another air cylinder 66 as shown in Fig. 8 or by the same air cylinder 71 as shown in Fig. 12. The pressure of air supplied to the air cylinder 66 or 71 for this purpose is regulated to be at a specified relatively lower level by a pressure regulating means 101 controlled by a controller 105. A single air cylinder 71 with two air supply chambers 71c and 71d each separately connected to one of a pair of regulators 101 and 102 as shown in Fig. 8 may be used for moving the heater unit 50 from the retracted position to the sealing position and to adjust the compressive pressure of the heater unit 50 at the sealing position may be used.

VI. Issues

In aforementioned final office action dated July 15, 2003 (hereinafter simply "the Final Office Action"), claims 24-30 were rejected under 35 U.S.C. 103 as being unpatentable over Fukuda (US 5,125,217) (hereinafter "Fukuda") in view of Grimshaw (US 5,314,563) (hereinafter "Grimshaw"). Fukuda relates to an apparatus using a single servo-motor 45 to control both the

pull-down belts 30 for advancing the film material being sealed and the motion of the seal belt 55 towards the film S. Grimshaw discloses an air cylinder for applying variable pressure. The Examiner states, as the reason for the rejection, that replacing communicating means of Fukuda's servo-motor 45 with an additional air cylinder would have been obvious (in lines 8-11 of Paragraph 2 of the Final Office Action) and that it would have been obvious to include the teaching of Grimshaw in the invention of Fukuda (final 3 lines of Paragraph 2 of the Final Office Action). In order to give support to this statement, the Examiner cited Fukuda (in lines 11-12 of Paragraph 2 of the Final Office Action) as saying that "different combinations of motion-communicating and torque-communicating means can be substituted" (column 8, lines 34-36).

ISSUE 1: IS FUKUDA'S SERVO-MOTOR 45 OR AN AIR CYLINDER A MOTION-COMMUNICATING OR TORQUE-COMMUNICATING MEANS?

ISSUE 2: DOES IT MAKE SENSE TO REPLACE FUKUDA'S SERVO MOTOR 45 BY AN AIR CYLINDER BY INCLUDING THE TEACHING OF GRIMSHAW IN THE INVENTION OF FUKUDA?

VII. Grouping of Claims

It is Applicant's intention that all claims 24-30 stand or fall together, as far as the reason of rejection stated in the Final Office Action is concerned.

VIII. Arguments

ISSUE 1: IS FUKUDA'S SERVO-MOTOR 45 OR AN AIR CYLINDER A MOTION-COMMUNICATING OR TORQUE-COMMUNICATING MEANS?

Neither a servo-motor (Fukuda's or otherwise) nor an air cylinder is a motion-communicating or a torque-communicating means in the ordinary sense of the expression. Motors and air cylinders are means for creating motion, linear or rotary. Motion-communicating

and torque-communicating means are for receiving motion or torque from an external motion-providing or torque-providing entity and transferring this received motion or torque to another external entity intended to be driven. Fukuda shows many such means in Figs. 5, 7 and 8, the universal joint 68, the screw 59, the turnbuckle 46 and the Schmidt couplings 38. Fukuda is merely saying that these can be replaced by more conventional communicating means such as gears and pulleys with belts.

ISSUE 2: DOES IT MAKE SENSE TO REPLACE FUKUDA'S SERVO MOTOR 45 BY AN AIR CYLINDER BY INCLUDING THE TEACHING OF GRIMSHAW IN THE INVENTION OF FUKUDA?

Fukuda's Fig. 8 clearly shows that the subject servo motor 45 is used to control both the film material S by means of the pull-down belts 30 and the seal belt 55. Although both the pull-down belts 30 and the seal belt 55 are moved towards and away from the film material S, the modes of their control are qualitatively different because while it is sufficient to control the pressure of the pull-down belts 30 such that the film material S can be pulled down, the pressure of the seal belt 55 for thermally sealing the film material S must be controlled more sensitively. In other words, the control of motion of the pull-down belts 30 may be a coarse control while that of the seal belt 55 must be a fine control. Fukuda's servo motor 45 is employed to effect both of these controls and, if an air cylinder replaced this servo motor, as suggested by the Examiner, the air cylinder which is replacing would also be operated to effect both the control of the pull-down belts 30 which may be coarse and need not be fine and the control of the seal belt which is herein aimed to be fine. Supplying air at different levels for controlling both the pull-down belts 30 and the seal belt 55 simultaneously is not desirable because the pressure between the pull-down belts and film material S should be constant and should not vary, dependent upon the finely controlled pressure changes between the seal belt 55 and the film material S. In other

words, it did not make sense to replace Fukuda's servo motor 45 by an air cylinder even of the kind disclosed by Grimshaw because nothing would have been gained thereby.

CONCLUSION

ISSUE 1 indicates that the Examiner did not read Fukuda correctly because servo-motors and air cylinders are motion and/or torque producing means and not motion and/or torque communicating means and Fukuda was talking about using different kinds of motion and/or torque communicating means, not suggesting replacing his servo motor by an air cylinder.

ISSUE 2 indicates that Fukuda would not have been motivated to replace his servo motor 45 by an air cylinder. Firstly, a servo motor is a means for providing a rotary motion while an air cylinder is a means for a linear motion. If Fukuda's servo motor were to be replaced by an air cylinder, an extra means for converting the linear motion provided by the air cylinder (or by its piston) into a rotary motion. Secondly, since Fukuda's servo motor 45 is adapted to control both the pull-down belts 30 and the seal belt 55, the air cylinder which replaces it would also be adapted to control them both. As explained above, the pressure control for the pull-down belts 30 may be coarse but that for the seal belt 55 is aimed to be fine. There is nothing to be gained by effecting a fine control on the pull down belts 30.

Rejection of claims 24-30 should be reversed.

Respectfully submitted,



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IX. Appendix of Claims Involved in the Appeal

24. A method of longitudinally sealing overlapping portions of a tubularly formed bag-making material by means of a heater unit at a sealing position, said method comprising the steps of:

moving said heater unit from a retracted position to said sealing position by supplying air at a higher pressure to an air cylinder which serves to move said heater unit reciprocatingly between said retracted position and said sealing position; and

thereafter supplying air at a lower pressure which is lower than said higher pressure to said air cylinder and controlling said lower pressure to cause said heater unit to longitudinally seal said bag-making material at a specified sealing pressure.

25. The method of claim 24 wherein air at said lower and higher pressures is supplied from a single air source and by varying the pressure of air at said air source to said lower and higher pressures and by using a switch means for selectively providing air at said lower pressure or said higher pressure.

26. The method of claim 24 wherein said specified sealing pressure is selected according to thickness of said bag-making material.

27. The method of claim 24 wherein said specified sealing pressure is selected according to a material characteristic of said bag-making material.

28. The method of claim 24 wherein said air cylinder has a first chamber and a second chamber, said first chamber serving to supply air for moving said heater unit to said

retracted position, said second chamber serving to supply air for moving said heater unit to said sealing position.

29. The method of claim 28 comprising the step of supplying air of said lower pressure into said second chamber of said air cylinder to control air pressure for sealing said bag-making material longitudinally at said specified sealing pressure.

30. The method of claim 24 wherein air of said higher pressure is supplied to said air cylinder for a specified length of time while air of said lower pressure is supplied to said air cylinder.